

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A ceramic envelope for a high intensity discharge lamp made of a light transmission ~~ceramies~~ceramic material, comprising:

a cylindrical barrel section forming an electric discharge light emitting space;

an annular closing section that closes ~~both ends~~each end of the said barrel section, respectively; and

a capillary section for inserting and fixing an electric discharge electrode to be outwardly protruded so as to be opposed to each other extending from a substantial ~~centers~~substantially central position of ~~both each said annular closing sections~~section;

wherein ~~the a~~ barrel section thickness of at least one of the boundary sections section between ~~both of the said~~ barrel section and each said annular closing section is continuously increased at a ratio from 1.2 to 2.0 ~~relevant relative to the a~~ thickness of said barrel section in the vicinity of the ~~a center of the electrical~~said electric discharge light emitting space.

2. (Currently Amended) A ceramic envelope for a high intensity discharge lamp made of a light transmission ~~ceramies~~ceramic material, comprising:

a cylindrical barrel section forming an electric discharge light emitting space;

an annular closing section that closes both ends each end of the said barrel

section, respectively; and

a capillary section for inserting and fixing an electric discharge electrode to be outwardly protruded so as to be opposed to each other extending from a substantial ~~center~~substantially central position of ~~both each said annular closing sections~~section;

wherein a ratio of an inner diameter of said barrel section, in the vicinity of an end of said barrel section, to an inner diameter of ~~the a~~ a center of the said barrel section is ~~equal to or greater than~~ at least 0.8 and ~~is~~ less than 1.0.

3. (Currently Amended) A ceramic envelope for a high intensity discharge lamp made of a light transmission ~~ceramics~~ceramic material, comprising:

a cylindrical barrel section forming an electric discharge light emitting space;

an annular closing section that closes ~~both ends~~each end of the said barrel section, respectively; and

a capillary section for inserting and fixing an electric discharge electrode to be outwardly protruded so as to be opposed to each other extending from a substantial ~~center~~substantially central position of ~~both each said annular closing sections~~section;

wherein a surface roughness Ra of ~~the an~~ an interior surface of said barrel section is in a range of 0.01 μm to 0.4 μm , and ~~the an~~ a additive concentration in the vicinity of ~~the said~~ the interior surface of said barrel section is $\frac{1}{2}$ or less of that in the vicinity of the center of the thickness.

4. (Currently Amended) A ceramic envelope for a high intensity discharge lamp made of a light transmission ~~ceramics~~ceramic material, comprising:

a cylindrical barrel section forming an electric discharge light emitting space;

an annular closing section that closes ~~both ends~~each end of the said barrel section, respectively; and

a capillary section for inserting and fixing an electric discharge electrode to be outwardly protruded so as to be opposed to each other extending from a substantial centersubstantially central position of ~~both each said annular closing sections~~section;

wherein ~~the a~~ barrel section thickness of at least one of the boundary sections section between ~~both of the said~~ barrel section and each said annular closing section is continuously increased at a ratio from 1.2 to 2.0 ~~relevant relative to the a~~ thickness of said barrel section in the vicinity of ~~the a~~ center of ~~an said~~ electric discharge light emitting space, and a ratio of a diameter of said barrel section, in the vicinity of an end of the said barrel section, to a diameter of ~~the a~~ center of ~~the said~~ barrel section is ~~equal to or greater than~~at least 0.8, and ~~is~~ less than 1.0.

5. (Currently Amended) ~~A~~The ceramic envelope for a high intensity discharge lamp as claimed in claim 1, wherein ~~the a~~ surface roughness Ra of the ~~an~~ interior surface of the said barrel section is ~~from~~in a range of 0.01 μm to 0.4 μm , and the ~~an~~ additive concentration of the surface of said barrel section is $\frac{1}{2}$ or less of that in the vicinity of the center of the thickness.

6. (Currently Amended) A-~~The~~ ceramic envelope for a high intensity discharge lamp as claimed in claim 3, wherein ~~an~~ said additive consists of at least one ~~or more~~ kinds of Sc_2O_3 , MgO , ZrO_2 , Y_2O_3 , and lanthanoid based rare earth ~~oxide~~ oxides.

7. (Currently Amended) A-~~The~~ ceramic envelope for a high intensity discharge lamp as claimed in claim 2, wherein ~~the~~ a surface roughness R_a of ~~the~~ an interior surface of ~~the~~ said barrel section is ~~from~~ in a range of $0.01\ \mu\text{m}$ to $0.4\ \mu\text{m}$, and ~~the~~ an additive concentration of the surface of said barrel section is $\frac{1}{2}$ or less of that in the vicinity of the center of the thickness.

8. (Currently Amended) A-~~The~~ ceramic envelope for a high intensity discharge lamp as claimed in claim 4, wherein ~~the~~ a surface roughness R_a of ~~the~~ an interior surface of the barrel section is ~~from~~ in a range of $0.01\ \mu\text{m}$ to $0.4\ \mu\text{m}$, and ~~the~~ an additive concentration of the surface of said barrel section is $\frac{1}{2}$ or less of that in the vicinity of the center of the thickness.

9. (Currently Amended) A-~~The~~ ceramic envelope for a high intensity discharge lamp as claimed in claim 5, wherein ~~an~~ said additive consists of at least one ~~or more~~ kinds of Sc_2O_3 , MgO , ZrO_2 , Y_2O_3 and lanthanoid based rare earth ~~oxide~~ oxides.

10. (Previously Added) ~~A-~~The ceramic envelope for a high intensity discharge lamp as claimed in claim 7, wherein ~~an~~said additive consists of at least one ~~or more~~ kinds of Sc_2O_3 , MgO , ZrO_2 , Y_2O_3 and lanthanoid based rare earth ~~oxide~~ oxides.

11. (Currently Amended) ~~A-~~The ceramic envelope for a high intensity discharge lamp as claimed in claim 8, wherein ~~an~~said additive consists of at least one ~~or more~~ kinds of Sc_2O_3 , MgO , ZrO_2 , Y_2O_3 and lanthanoid based rare earth ~~oxide~~ oxides.